

A RAILROAD RIGHT UP TO THE VERY TOP OF THE ALPS.

THE most daring railroad ever constructed is that now building, which will ascend to the summit of the Jungfrau Mountain in the Alps.

The road when completed will be eight miles in length, with a maximum rise of 6,900 feet. It will be worked by electricity.

The section already constructed is almost entirely on the surface, only eighty-five yards being in the tunnel, but the whole of the remaining distance will be within the rock under the Elger, Monch and Jungfrau mountains.

At the stations the passengers will be able to sleep, as well as eat and drink.

The fare for the round trip will be \$8.



THE Jungfrau is considered the most beautiful and, after the Matterhorn, the most dangerous Alpine peak to climb.

The new electric railroad will make it easy for a baby to ascend to the summit. There is no question that it is practicable.

The most striking fact from an engineering point of view is that the road will have a maximum rise of 6,900 feet. The gradient in inclination will vary from 6% to 25 per cent. The completion of the road will be above all a triumph for electricity.

A sudden ascent into rarefied mountain air is a dangerous thing for persons suffering from various ailments. Therefore a physician will be stationed at the starting point of the railroad to decide whether passengers are fit to make the ascent. For a similar reason the journey will not be made suddenly, but passengers will be able to leave the train at five intermediate stations.

These stations will be hewn out of the rock, and the ceilings will be supported by stone pillars. The stations will be made with window-like openings similar to those of the Axenstrasse railroad, on Vierwaldstatter Lake. Walls, ceilings and floors will be covered with wood, and the stations will be illuminated and heated throughout by electricity. In addition to the apartments of the attendants, each station will contain a restaurant and sleeping rooms for travellers.

Starting from the station of Little

How You Will Soon Be Able to Ride Up to the Summit of the Jungfrau on the New Electric Railway, Which Will Shoot Up Eight Miles in the Air, and How You Can Eat, Drink and Sleep En Route.

The Course of the Electric Railroad Which Will Run to the Summit of the Jungfrau Mountain, 13,634 Feet High.



removed and blasting begins. Into each hole dynamite cartridges are dropped, and the fuses connected with the cap. The laborers in the tunnel all hurr down the hill, through the air, and presently the explosion thunders forth.

As the removal of the rock which has been blasted requires considerable time, the mines are daily fired only three or four times, equivalent to a daily advance of ten to fifteen feet. Excavations are hence being made at a comparatively quick rate, but the work, it has been computed, will not be completed before the end of six years. The tunnel will be throughout 13 feet in height and 11 feet in width.

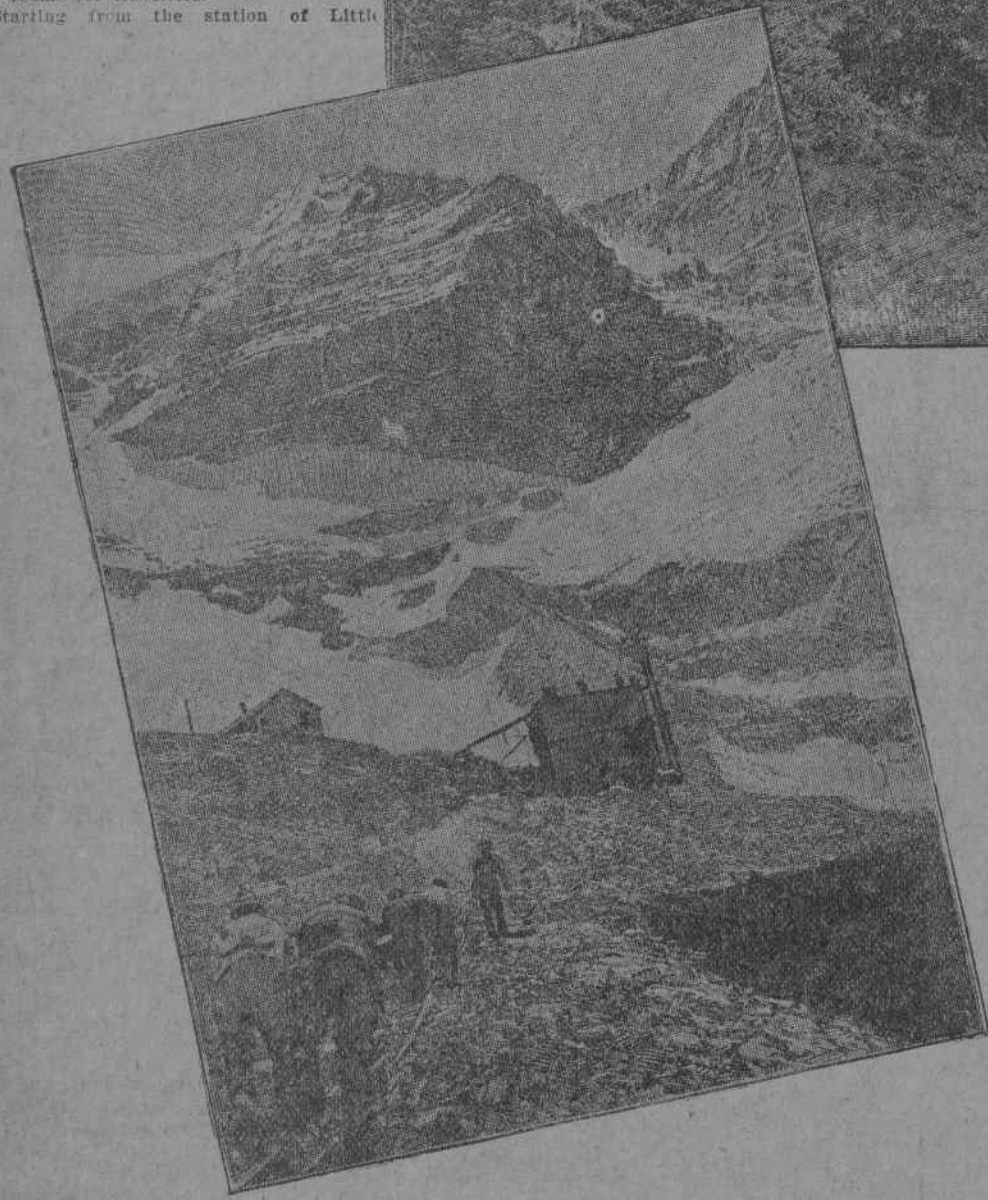
Electricity is also used in disposing of the water; for, with its assistance, ice and snow are melted, food is cooked, and in winter the workmen's huts are heated. The time is coming when the engineers with their 200 laborers, mostly Italian, will have become snowbound up in the mountains. The electrical conductors connected with a telephone will then constitute the only means of communicating with the "lower world."

A still larger generating station to be built in the valley of Grindelwald will add its power to that of the Lauterbrunnen power-house, and both together will produce power sufficient, not only for the needs of the road, but also for the production of most brilliant light effects. Upon Jungfrau summit two giant searchlights are placed, of hitherto unequalled power.

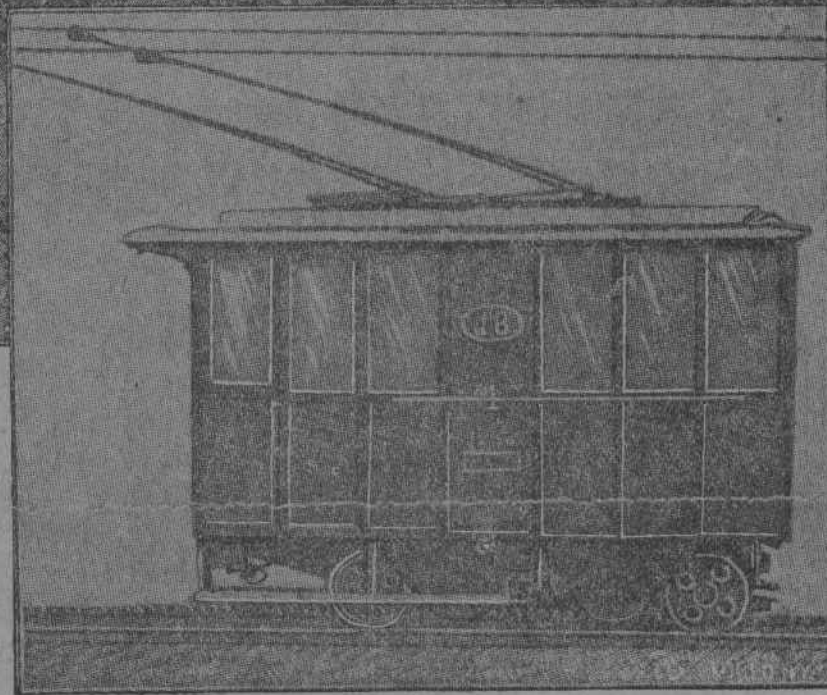
One of these searchlights may be operated by the tourists who visit the Jungfrau by night, and the beams thrown upon the neighboring mountains or into the chamber of some sleeper far down in the valley. The other light will serve as a kind of light-house, visible from the cathedral of Strasbourg and from the cathedral of Milan.

In the matter of expense, this railroad will also be the most remarkable in the world. According to the present scheme, the round trip will cost the passenger forty francs, or about \$8. This is doubtless the highest price charged for a railroad journey of fourteen miles.

According to electrical authorities, the Jungfrau line is one of the most interesting applications of three-phase transmission and distribution yet made. Water power is made use of in the valley to generate three-phase alternating currents at 7,000 volts, and these are transmitted by means of an overhead line to transformer stations at the Little Scheldegg and the Elger Glacier, where they are transformed to 500 volts multiphase by means of stationary transformers.



The Beginning of the Tunnel Through Which the Railroad Will Run.



A Motor Car to Be Used on the New Railroad.

Scheldegg, reached by the Wengern Alps railroad, and situated 8,770 feet above the sea—one-half of the elevation of the summit of the Jungfrau—the railroad runs first toward the Elger glacier, passes through Elger and then under Monchsloch and Jungfraujoch up to the heights of the Jungfrau, the highest point of which will be reached by an elevator.

The following stations have been definitely fixed: Scheldegg, 6,770 feet, elevation 0.0; Gletscher, 7,000 feet, elevation 2.0 kilometers (6,561 feet); Elgerwand, 9,223 feet, elevation 4.0 kilometers (13,122 feet); Elmsee, 12,305 feet, elevation 5.6 kilometers (18,872 feet); Jungfraujoch elevator, 13,306 feet, elevation 12 kilometers (39,308 feet); Jungfraukümm, 13,634 feet. The entire road will therefore be almost eight miles in length. The grade is never to be greater than 25 per cent, and the ascent

to be made in exactly 100 minutes.

The road is operated by electricity generated in the valley of Lauterbrunnen, and conducted up by naked wires at a tension of 7,000 volts. This current also drives the drills in the tunnel. Each drill comprises a vertical frame with two guide-posts between which the drill-holder, adjustable to all sides, is arranged. From the drill-holder the drill projects. With each revolution the drill removes 2 mm. (0.078 inch) of the stone, and in about ten minutes bores a hole one meter (3.28 feet) in length.

A longitudinal aperture extends through the drill, through which aperture water flows into the hole and serves to keep the drill cool, as well as to wash away the powdered rock. As soon as the drills have bored twelve holes in the roof, floor, and two sides of the tunnel, the machines are



A View from the Tunnel Up the Jungfrau.

—AND—A BOOK OF POEMS OF LOVE AND PASSION—By Secretary Kay's Daughter.

be of the cab driver on the one hand and the who dropped into a mill pond, which created a widening circle. who has been trained all her life in one particular member of society if she is carrying on that trade can find the opening, which is extremely unlikely during hard times; and if a temporary success, as in the case of an increased demand for her particular form of work, enables her to hang on in her trade until better times come, surely in the long run the world is richer than if this abnormal demand were not produced, and the wealth that produced it were distributed over a vast number of people, who would not be in such dire need of it, and who would not appreciably notice whether they had it or not.

KAY, DAUGHTER OF AMERICA'S PREMIER.

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Our love could never be the love of day;
I have not claimed the welcome of thy lips;
No touch save fluttering hand, and for the pay
gave my ministrals of sea and sky.
Once more thine eyes! Now, sun-stained finger-tips,
Send through the hush of dawn a glad good-by.

Evening at Washington.

THE purple stretches of the evening sky
Lean to the fair white city waiting here,
Flecking with gold the marble's lifted tier,
Down the blue marsh where crows to southward fly.
Flanked by dim ramparts, where the tide dreams by,
High from the city's heart, a lifted spear,
In its straight splendor makes the heavens seem near,
Symbol of man-made force that shall not die.
To the tall crest we gaze in self-command,
Assured the world's our own and we may dare
To raise our Babel thro' forbidden aisles,
And hold the skirt of knowledge in our hand,
Great in our moment, spun the world's despair;
While heaven looks down through calm, unmeasured miles.

The Joy of Life. 262

HER hair was twined with vine leaves thro' the gold
The leopard skin about her shoulders flung
Showed gleams of her as marble, fair and cold;
I breathed not, listening to the song she sung.

And thither thro' the solemn world,

Glory of purple, passionate blazing red,
Glims thro' the gloom, and thro' the gray is swirled."
Ah! but the leaves twined sweet about her head.

"Heedless, men pass me in their search for life,
Hunting for altars to their souls' fine fires,
Crying the sun or joy of toil and strife
And know not that 'tis I their heart desires.

"They dream not that the sheen on peacock's breast,
The haze and perfume of a Summer's day,
The silver stealing o'er the twilight West
Are joys more rich than all the world's display."

The Love of the Rose.

TRILLED forth the nightingale
In sweetest sleep of day,
Unto his love, the rose,
"Ah, golden heart, uncloset
For love, my fairest rose, will last for aye."

So, thro' the waning night
She learned to wear her crown;
Yielded her heart's sweet strife
And found that love was life
Set to the tune the dear bird lifted down.

But when the morning came
The red sun burned above;
Hid are the night birds all,
Flower petals fade and fall;
The rose is dead—and what became of love?

However, on this point there may very well be a difference of opinion, and it does not matter very much which way it is decided. But the important questions are:

- (1) Can a rich man rightfully be prevented from spending his income as he chooses?
- (2) Is a millionaire a member of the community to be desired?

Has a Man a Right to Be Rich?

These two questions should be considered together, because if you answer the former question in the affirmative in a country like America, with comparatively no traditions or large real estates to hold a man, you would lose by immigration all your rich men; and the same result would take place in England as to personality.

I will consider the former question first. Its answer depends upon the definition given to the term "rightfully." If by that it is merely meant legally, then in a country like England, which has no fixed Constitution, the answer is simple, as then anything can rightfully be done; but I use the term as signifying justly, honestly, etc., and in that signification the answer is not so apparent. One of the most fundamental principles of democracy is that all men should be treated alike.

It was this clause in the American Constitution that threw out the income tax, and it was the lack of this clause that allowed the succession duty to be imposed in England. Democracy has supplanted monarchy, because the middle and lower classes objected to class legislation which were detrimental to them; yet they are now trying to pass class legislation which is detrimental to the upper classes.

In other words, now that they are in power, they are trying to do exactly the same thing which they decried so strongly before they came into power—namely, the placing of greater burdens on the political minority.

Therefore any legislation on this subject to be just must be so worded as to affect all classes equally—viz., "No man shall spend more than half his income," etc. But the trouble with that form of legislation is the fact that the richer a man is the smaller is the proportion of the money spent on himself to his whole income. And that leads up to a consideration of the second question: Is a millionaire a member of society to be desired?

Is a Millionaire a Desirable Member of Society?

At first sight it seems very hard and unfair that one man with brains should have to toil all his life, and leave his family perhaps not very much better off than at the beginning, while another man, without enough brains to come in when it rains, on account of the accident of birth drives through life on a coach.

But, if our hypothetical workman had sufficient power of observation and self-analysis, he would discover that the very motive that actuated him to toil was the one that produced the phenomenon of covetous sitting in the lap of luxury with gold spoons in their mouths—namely, the desire to provide for one's young, which we have in common with all other animals. At first a young man works in order to marry, but later on, although he may occasionally think of a drink for himself, he is working and saving in order to educate and provide for his children, so that they may start life's battle, when their turn comes, a little better prepared than he was.

It is this same feeling that has produced the greatest fortunes, and, if you object to

the latter being inherited, you should also prevent the laborer from leaving his mite to his children.

The Mulcting of Millionaires.

I should like to emphasize the fact that mulcting the rich is taking from labor its most just and highly prized due—namely, the right to provide for the young.

Although wealth does not develop the best qualities in a man, and therefore comparatively few rich men have been truly great, still in all ages they have had an important place in society, which they have filled quite as well as any other class.

Take music as an example: If it were not for the millionaires in the boxes who whisper and annoy the true music lovers—who have paid for their seats in the stalls—the latter would not be able to go to the opera at all, as all operas are run at a loss to the stockholders.

The same is equally true of exploration, charities, etc. This, although true of the past, and still, in a certain degree, of the present, need not in the least be true in the future, as operas can be run or subsidized by the government, as in France, and government museums can purchase works of art more easily even than the wealthier classes. But still the millionaire is, and as long as he is allowed to exist, always will be, a useful member of society, because he produces more wealth in comparison to the amount that he exhausts than any other member of society.

Millionaires Better for the Community than "Laborers."

Therefore the community is better off by having him than the laborer by the difference between his percentage of savings out of his income to that of the laborer's.

But, although defensible on principle, in practice the lavish expenditure of wealth is unwise, as it tends to accentuate the differences between the rich and the poor, instead of bringing into prominence the many interests that they have in common, and it gives an opportunity to demagogues and nincompoops to rail against accumulated wealth, and by the mere excess of their vituperation to influence the masses more strongly than any really sound reasoning could do, or than any logical arguments could hope to undo.

And this is not in the least surprising, as the masses cannot be expected to have sufficiently well-balanced and well-trained minds to comprehend social and economic problems, which are so intricate that many who have been trained all their lives to consider them do not always clearly understand them.

Therefore my conclusions are: First—It is a short-sighted policy to lavishly expend wealth. Second—A millionaire, not on account of, but in spite of his expenditure, is economically the most beneficial person for a community. Third—No legislation can be applied to all classes; and, if a law were passed applying to all classes, the millionaire would be less affected by it than any one else, as he spends a smaller share of what his productive powers entitle him to than any other member of society. Fourth—The discussion of this subject purely from the economic point of view is a mistake. Fifth—Even economically, under exceptional circumstances, the lavish expenditure of wealth can be justified.

BRADLEY MARTIN, JR.